

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: T. Terada et al. **COPY OF PAPERS
ORIGINALLY FILED**

: Art Unit:

Serial No.: 09/898,338

: Examiner:

Filed: July 3, 2001

:

FOR: DE-HALOGEN PROCESSING

:

METHOD OF FIRE-RESISTENT RESIN

:

COMPOSITE CONTAINING HALOGEN

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

S I R :

Prior to examination, please amend the above-identified application as follows:

IN THE TITLE:

Please delete the title in its entirety and replace with the following:

METHOD FOR DEHALOGENATION TREATMENT OF HALOGEN
CONTAINING NON-COMBUSTIBLE RESIN COMPOSITION

IN THE SPECIFICATION:

Please replace the paragraph beginning at page 29, line 19:

An epoxy resin solution was obtained by mixing 4 parts by weight of methyl ethyl ketoxime-blocked 4-4'-diphenylmethane diisocyanate as a hardening agent, 100 parts by weight of a solvent mixture (45/55 weight ratio) of acetone and 2-methoxyethanol with 100 parts by weight of a non-combustible epoxy resin, which is obtained by tetrabromobisphenyl A reacting with epichlorohydrin.

Please replace the paragraph beginning at page 51, line 17:

Further, contact of the flame-retardant resin composition with the material mixture may be carried out while applying shear force not only using restrictedly the biaxial kneading extruder but also a monoaxial extruder and kneader, rotation rolls of two rolls or three rolls, and the like. Alternatively, batch treatment in a reaction steel in such as a stainless steel tank may also be applicable.

Please replace the paragraph beginning at page 52, line 19:

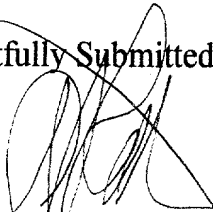
Then, the laminate is immersed in a material mixture containing at least one decomposition material selected from the group consisting of ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzyloxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether and tripropylene glycol monomethyl ether, tetralin, biphenyl, naphthalene, 1,4-hydroxynaphthalene, naphthol, 1,4-naphthoquinone, pitch, creosote oil, methyl isobutyl ketone, isophorone, 2-hexanone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetonylacetone, phorone, cyclohexanone, methylcyclohexanone, and acetophenone and at least one dehalogenation material selected from the group consisting of tetralin, sodium hypophosphite, sodium thiosulfate, ascorbic acid, hydrazine, dimide, formic acid, an aldehyde, a saccharide, hydrogen sulfide, lithium, calcium, magnesium, zinc, iron, titanium, aluminum lithium hydride, lithium hydride, hydrogenated diisobutylaluminum, alcoholic potassium, a metal alkoxide, an amine, and potassium iodide, to carry out the treatment. In the present embodiment, the material mixture was produced by selecting tetralin from the dehalogenation promoting materials and sodium ethoxide, a metal alkoxide, from the dehalogenation materials.

IN THE CLAIMS:

Please replace claim 7 with the following amended claim:

- 1 7. (As Amended) The dehalogenation treatment method of a halogen-
2 containing flame-retardant resin composition as set forth in claim 6, wherein the
3 contact by kneading while applying shear force is carried out by a biaxial
4 kneading extruder, a kneader, or rotation rolls.

Respectfully Submitted,



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Attorney for Applicants

AR/lm

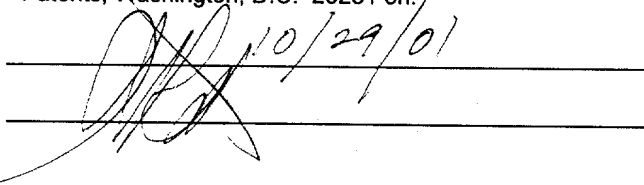
Enclosure: Version With Markings Showing Changes Made

Dated: October 29, 2001

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The Assistant Commissioner for Patents is
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VERSION WITH MARKINGS SHOWING CHANGES MADETITLE:

Specification a page 1, line 2:

~~DE-HALOGEN PROCESSING METHOD OF FIRE RESISTANT RESIN~~
~~COMPOSITE CONTAINING HALOGEN~~METHOD FOR DEHALOGENATION
TREATMENT OF HALOGEN CONTAINING NON-COMBUSTIBLE RESIN
COMPOSITION

SPECIFICATION:

Specification at page 29, line 19:

An epoxy resin solution was obtained by mixing 4 parts by weight of methyl ethyl ketoxime-blocked 4-4'-diphenylmethane diisocyanate as a hardening agent, 100 parts by weight of a solvent mixture (45/55 weight ratio) of acetone and 2-methoxyethanol with 100 parts by weight of a non-combustible epoxy resin, which is obtained by tetrabromobisphenyl A reacting with epichlorohydrin.
~~Methyl ethyl ketoxime-blocked 4-4'-diphenylmethane diisocyanate.~~

Specification at page 51, line 17:

Further, contact of the flame-retardant resin composition with the material mixture may be carried out while applying shear force not only using restrictedly the biaxial kneading extruder but also a monoaxial extruder and kneader, rotation rolls of two rolls or three rolls, and the like. Alternatively, batch treatment in a reaction ~~layer~~ steel in such as a stainless steel tank may also be applicable.

Specification at page 52, line 19:

Then, the laminate is immersed in a material mixture containing at least one decomposition material selected from the group consisting of ethylene glycol, propylene glycol, diethylene glycol, dipropylene glycol, isoprene glycol, triethylene glycol, tetraethylene glycol, 2-methoxyethanol, 2-ethoxyethanol, 2-dimethoxyethanol, 2-isopropoxyethanol, 2-butoxyethanol, 2-isopentyloxyethanol, 2-hexyloxyethanol, 2-phenoxyethanol, 2-benzyloxyethanol, 1-methoxy-2-propanol, 1-ethoxy-2-propanol, diethylene glycol monomethyl ether, diethylene

glycol monoethyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, triethylene glycol monomethyl ether and tripropylene glycol monomethyl ether, tetralin, biphenyl, naphthalene, 1,4-hydroxynaphthalene, naphthol, 1,4-naphthoquinone, pitch, creosote oil, methyl isobutyl ketone, isophorone, 2-hexanone, 2-heptanone, 4-heptanone, diisobutyl ketone, acetonylacetone, phorone, cyclohexanone, methylcyclohexanone, and acetophenone and at least one dehalogenation material selected from the group consisting of tetralin, sodium hypophosphite, sodium thiosulfate, ascorbic acid, hydrazine, dimide, formic acid, an aldehyde, a saccharide, hydrogen sulfide, lithium, calcium, magnesium, zinc, iron, titanium, aluminum lithium hydride, lithium hydride, hydrogenated diisobutylaluminum, alcoholic potassium, a metal alkoxide, an amine, and potassium iodide, to carry out the treatment. In the present embodiment, the material mixture was produced by selecting tetralin from the dehalogenation promoting materials and sodium ethoxide, a metal alkoxide, from the dehalogenation materials.

CLAIMS:

1 7. (As Amended) The dehalogenation treatment method of a halogen-
2 containing flame-retardant resin composition as set forth in claim 86, wherein the
3 contact by kneading while applying shear force is carried out by a biaxial
4 kneading extruder, a kneader, or rotation rolls.